



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/540,578

06/24/2005

Hiroshi Kanai

OHK-0008

6450

23353 7590 08/29/2008  
RADER FISHMAN & GRAUER PLLC  
LION BUILDING  
1233 20TH STREET N.W., SUITE 501  
WASHINGTON, DC 20036

EXAMINER

STIMPERT, PHILIP EARL

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

08/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,578	<b>Applicant(s)</b> KANAI ET AL.	
	<b>Examiner</b> Philip Stimpert	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. (US 4,764,091) in view of Miyaoh (5,988,651).

3. Regarding claim 12, Ikeda et al. teach a compressor in which a fluid is compressed. Ikeda et al. further teach a gasket (13) disposed between a valve plate (4) and a rear cylinder block (5b). Ikeda et al. do not teach that the gasket (13) has a raised portion or inclined surface, or any of the remaining limitations of claim 12. Miyaoh is directed to a gasket. In particular, in Fig. 2, Miyaoh teaches a gasket having a raised portion (A10) surrounding a sealed portion (Hw) wherein the right end of the raised portion (A10) and a base surface (A10a) are not set on a single plane, the raised portion includes a flat surface (A10) and an inclined surface (roughly, A13) with a predetermined angle of inclination which links the flat surface (A10) with the base surface (A10a) and an outer (left) edge of the flat surface does not have a shape similar to the shape of an inner edge (as shown in Figs. 1 and 2). Miyaoh indicates that this structure provides a reliable, inexpensive gasket (col. 2, ln. 20-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the gasket (13) of Ikeda et al. to include the gasket structure as taught by Miyaoh in

Art Unit: 3746

order to take advantage of that structure's reliability and inexpensive manufacture. To clarify, the shapes of the inner and outer edges of the flat surface (A10) are dissimilar in several respects. First, since the gasket (A10) as shown in Fig. 1 is a single continuous piece, the rectangular edges of the gasket may in one sense be considered the outer edge of the flat surface. Further, as shown in Fig. 2, the inner edge of the flat surface cuts off for the hole (Hw), whereas the outer edge blends into the inclined surface (A13), which is also a sufficient dissimilarity of shape to meet the limitations of claim 1.

4. Regarding claim 13, Ikeda et al. teach that the gasket (13) is disposed between a valve plate (4) and a rear cylinder block (5b, see col. 4, ln. 41). Further, Miyaoh teaches that the inner edge (right edge in Fig. 2) of the flat surface is squared off, and thus not circular. Also, in their Fig. 7, Ikeda et al. teach that some of the holes (such as 16) which would be sealed by the gasket are not circular in cross-section, thus leading to a non-circular inner edge in the flat surface in the combination.

5. Regarding claim 14, according to the combination (see Fig. 5A and 7 of Ikeda et al.), the entire outer edge of the raised portion of the flat surface comes into contact with an intake valve and only a specific portion of the inner edge would come into contact with the intake valve. One of ordinary skill in the art would appreciate that the entire outer edge must come into contact in order to provide sealing, and that the valve structure of Ikeda et al. would prevent the entire inner edge from coming into contact.

6. Regarding claim 15, the combination of the references would require that the specific portion correspond to a connecting base portion (bottom, in Fig. 5A) of a lead portion of the intake valve.

Art Unit: 3746

7. Regarding claim 16, Miyaoh teaches gasket which according to the combination is used in a compressor which compresses a fluid. According to Miyaoh, the gasket has a raised portion (A10) rising so as to surround a sealed portion (Hw), and according to the combination, the gasket is disposed between a valve plate (Ikeda et al., 4) and a cylinder head (5b, see col. 3, ln. 67). Miyaoh also teaches that the inner edge end of the raised portion (A10) and a base surface (A10a) are not positioned on a single plane. Further, in the combination, the gasket, and thereby the raised portion (A10) would be disposed so as to seal a high/low pressure barrier wall (5c) and an atmospheric pressure barrier wall (5b). Finally, Miyaoh teaches a raised portion (A10) surrounding a sealed portion (Hw) wherein the right end of the raised portion (A10) and a base surface (A10a) are not set on a single plane, the raised portion includes a flat surface (A10) and an inclined surface (roughly, A13) with a predetermined angle of inclination which links the flat surface (A10) with the base surface (A10a) and an outer (left) edge of the flat surface does not have a shape similar to the shape of an inner edge (as shown in Figs. 1 and 2).

8. Regarding claim 17, according to the combination, an inclined surface (A13) of the gasket would come into contact with at least the high/low pressure barrier wall in order to seal it.

9. Regarding claims 18 and 19, Ikeda et al. teach that the gasket (13) includes retainer portions (15) which regulate operation of a discharge valve (12a, col. 5, ln. 6-14).

Art Unit: 3746

10. Claims 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. in view of Miyaoh as applied to their respective parent claims above, and further in view of Murakami et al. (US 2001/0019698).

11. Regarding claim 20-27, neither Ikeda et al. nor Miyaoh teach the use of carbon dioxide in a compressor. Murakami et al. teach a swash plate compressor, and in particular teach that the substitution of carbon dioxide for other refrigerants, particularly chlorofluorocarbons is "promising," (¶23) and provides advantageous thrust loading levels (¶93). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use carbon dioxide as the refrigerant in order to take advantage of its thrust loading properties.

### ***Response to Arguments***

12. Applicant's arguments, see page 6, filed 30 April 2008, with respect to the claim objections and the indefiniteness of claim 17 have been fully considered and are persuasive. The objection to the claims and the rejection of claim 17 under 35 U.S.C. 112 have been withdrawn. The examiner notes that the further objection to the claims is withdrawn due to the examiner's current stance that it is clear that the raised and sealed portions are elements of the gasket.

13. Applicant's further arguments have been considered, but are not persuasive.

14. Regarding the applicant's arguments about the similarity of the inner and outer edges of the flat surface of Miyaoh, as noted above, since the gasket (A10) as shown in Fig. 1 is a single continuous piece, the rectangular edges of the gasket may in one sense be considered the outer edge of the flat surface. Further, as shown in Fig. 2, the

Art Unit: 3746

inner edge of the flat surface cuts off for the hole (Hw), whereas the outer edge blends into the inclined surface (A13), which is also a sufficient dissimilarity of shape to meet the limitations of claim 1. In general, the examiner notes that the relevant language in this claim is extremely broad, and as such it will be difficult to rest a case for patentability on similarities of shape.

15. Regarding applicant's arguments about the circularity of the holes of Miyaoh, as noted above, the gasket of Miyaoh is square off, and thus not circular. Further, at least some of the holes which would be sealed by the gasket in a combination with Ikeda et al. are not circular. Therefore, the combined references do teach the limitations of claim 13.

### ***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3746

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Stimpert whose telephone number is (571)270-1890. The examiner can normally be reached on Mon-Fri 7:30AM-4:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
Unit 3746

/P. S./  
Examiner, Art Unit 3746  
26 August 2008